

WHAT IS CLAIMED IS:

1. A.1 isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:
- 5 (a) a nucleotide sequence encoding a full-length NAF-1 polypeptide having the complete amino acid sequence in SEQ ID NO:2, or the complete amino acid sequence encoded by the cDNA clone contained in the ATCC Deposit No. 97343;
 - (b) a nucleotide sequence encoding a full-length NAF-1 polypeptide having the complete amino acid sequence in SEQ ID NO:2 excepting the N-terminal
 - 10 methionine (i.e., positions 1 to 331 of SEQ ID NO:2) or the complete amino acid sequence excepting the N-terminal methionine encoded by the cDNA clone contained in the ATCC Deposit No. 97343;
 - (c) a nucleotide sequence encoding a predicted mature form of the NAF-1 polypeptide having the amino acid sequence at positions 24-331 or 27-331 in SEQ
 - 15 ID NO:2 or as encoded by the cDNA clone contained in the ATCC Deposit No. 97343;
 - (d) a nucleotide sequence encoding a polypeptide comprising the predicted TSR domain of the NAF-1 polypeptide having the amino acid sequence at positions 284-330 in SEQ ID NO:2 or as encoded by the cDNA clone contained in the ATCC
 - 20 Deposit No. 97343; and
 - (e) a nucleotide sequence complementary to any of the nucleotide sequences in (a), (b), (c) or (d) above.
2. The nucleic acid molecule of claim 1 wherein said polynucleotide has
- 25 the complete nucleotide sequence in Figure 1 (SEQ ID NO:1).
3. The nucleic acid molecule of claim 1 wherein said polynucleotide has the nucleotide sequence in Figure 1 (SEQ ID NO:1) encoding the NAF-1 polypeptide having the amino acid sequence in positions 2 to 331 of SEQ ID NO:2.

4. The nucleic acid molecule of claim 1 wherein said polynucleotide has the nucleotide sequence in Figure 1 (SEQ ID NO:1) encoding the mature NAF-1 polypeptide having the amino acid sequence from about 27 to about 331 in SEQ ID NO:2.

5. A: isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

(a) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of residues n-331 of SEQ ID NO:2, where n is an integer in the range of 1-283;

(b) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of residues 1-m of SEQ ID NO:2, where m is either 330 or 331;

(c) a nucleotide sequence encoding a polypeptide having the amino acid sequence consisting of residues n-m of SEQ ID NO:2, where n and m are integers as defined respectively in (a) and (b) above; and

(d) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete NAF-1 amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97343 wherein said portion excludes from 1 to about 283 amino acids from the amino terminus of said complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97343;

(e) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete NAF-1 amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97343 wherein said portion excludes 1 amino acid from the carboxy terminus of said complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97343; and

(f) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete NAF-1 amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97343 wherein said portion include a combination of any of the amino terminal and carboxy terminal deletions in (d) and (e), above.

6. The nucleic acid molecule of claim 1 wherein said polynucleotide has the complete nucleotide sequence of the cDNA clone contained in ATCC Deposit No. 97343.

5 7. The nucleic acid molecule of claim 1 wherein said polynucleotide has the nucleotide sequence encoding the NAF-1 polypeptide having the complete amino acid sequence excepting the N-terminal methionine encoded by the cDNA clone contained in ATCC Deposit No. 97343.

10 8. The nucleic acid molecule of claim 1 wherein said polynucleotide has the nucleotide sequence encoding the mature polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97343.

9. An isolated nucleic acid molecule comprising a polynucleotide which
15 hybridizes under stringent hybridization conditions to a polynucleotide having a nucleotide sequence identical to a nucleotide sequence in (a), (b), (c), (d) or (e) of claim 1 wherein said polynucleotide which hybridizes does not hybridize under stringent hybridization conditions to a polynucleotide having a nucleotide sequence consisting of only A residues or of only T residues.

20 10. An isolated nucleic acid molecule comprising a polynucleotide which encodes the amino acid sequence of an epitope-bearing portion of a NAF-1 polypeptide having an amino acid sequence in (a), (b), (c) or (d) of claim 1.

25 11. The isolated nucleic acid molecule of claim 10, which encodes an epitope-bearing portion of a NAF-1 polypeptide wherein the amino acid sequence of said portion is selected from the group of sequences in SEQ ID NO:2 consisting of: a polypeptide comprising amino acid residues from about Pro-75 to about Gly-100; a polypeptide comprising amino acid residues from about Thr-168 to about Leu-180; a
30 polypeptide comprising amino acid residues from about Asp-204 to about Ile-226; a polypeptide comprising amino acid residues from about Ile-258 to about Pro-281; and a polypeptide comprising amino acid residues from about Glu-291 to about Ser-327.

00470042.104300

12. A method for making a recombinant vector comprising inserting an isolated nucleic acid molecule of claim 1 into a vector.

13. A recombinant vector produced by the method of claim 12.

14. A method of making a recombinant host cell comprising introducing the recombinant vector of claim 13 into a host cell.

15. A recombinant host cell produced by the method of claim 14.

16. A recombinant method for producing a NAF-1 polypeptide, comprising culturing the recombinant host cell of claim 15 under conditions such that said polypeptide is expressed and recovering said polypeptide.

17. An isolated NAF-1 polypeptide comprising an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

(a) the amino acid sequence of the full-length NAF-1 polypeptide having the complete amino acid sequence shown in SEQ ID NO:2 or the complete amino acid sequence excepting the N-terminal methionine encoded by the cDNA clone contained in the ATCC Deposit No. 97343;

(b) the amino acid sequence of the full-length NAF-1 polypeptide having the complete amino acid sequence shown in SEQ ID NO:2 excepting the N-terminal methionine (i.e., positions 1-331 of SEQ ID NO:2) or the complete amino acid sequence excepting the N-terminal methionine encoded by the cDNA clone contained in the ATCC Deposit No. 97343;

(c) the amino acid sequence of the mature NAF-1 polypeptide having the amino acid sequence of residues 24-331 or 27-331 in SEQ ID NO:2, or the mature NAF-1 amino acid sequence as encoded by the cDNA clone contained in ATCC

Deposit No. 97343; and

(d) the amino acid sequence of the TSR domain of NAF-1 having the amino acid sequence of residues 284 to 330 of SEQ ID NO:2, or the amino acid sequence of the TSR domain of NAF-1 encoded by the cDNA clone contained in ATCC Deposit No. 97343.

5

18. An isolated polypeptide comprising an epitope-bearing portion of the NAF-1 protein, wherein said portion is selected from the group consisting of: a polypeptide comprising amino acid residues from about Pro-75 to about Gly-100; a polypeptide comprising amino acid residues from about Thr-168 to about Leu-180; a polypeptide comprising amino acid residues from about Asp-204 to about Ile-226; a polypeptide comprising amino acid residues from about Ile-258 to about Pro-281; and a polypeptide comprising amino acid residues from about Glu-291 to about Ser-327.

15

19. An isolated antibody that binds specifically to a NAF-1 polypeptide of claim 17.

20

20. An isolated nucleic acid molecule comprising a polynucleotide having a sequence at least 95% identical to a sequence selected from the group consisting of:

25

(a) the nucleotide sequence of clone HLHCE24R (shown as SEQ ID NO:15);

(b) the nucleotide sequence of clone HLHDR83R (shown as SEQ ID NO:16);

(c) the nucleotide sequence of clone HPTSB36R (shown as SEQ ID NO:17);

(d) the nucleotide sequence of a portion of the sequence shown in Figure 1 (SEQ ID NO:1) wherein said portion comprises at least 50 contiguous nucleotides from nucleotide 1 to 650; and

30

(e) a nucleotide sequence complementary to any of the nucleotide sequences in (a), (b), (c) and (d).

09170042.101208